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(54) Title: PREPARING ACTIVE POLYMER EXTRUDATES

(57) Abstract: Process for preparing active polymer extrudate comprising polymer matrix and guest matter, the process comprising contacting a polymer substrate and guest matter with a plasticising fluid under dense phase, sub critical or supercritical plasticising conditions of elevated temperature and/or pressure to plasticise the polymer substrate and incorporate guest matter and extruding polymer substrate incorporating guest matter under dense phase, sub critical or supercritical conditions via an extrusion orifice into a collection zone or a mould with simultaneous or subsequent release of pressure, whereby extrudate is obtained comprising a solid admixture of polymer matrix and guest matter in form conferred by the orifice or the mould; a novel extrudate; composition thereof and apparatus for the preparation thereof, and use thereof in fibre processing techniques, medical applications such as in delivery of drugs and other agents such as imaging and diagnostic agents, tissue engineering, and as medical devices or aids such as delivery devices or aids for drugs, imaging and diagnostic agents, as tissue engineering devices or aids such as sutures, and the like; as an anti-microbial for example having bacteria -static or -cidal activity; as a natural or synthetic barrier capable of immobilising e.g. naturally occurring or artificially introduced poisons or toxins by e.g. absorption, interaction or reaction; in agrochemical or crop protection applications; in the processing of thermally labile fibres for use in dyeing, textiles, electronics etc below the polymer T_g, T_m or viscosity; in incorporation of dyes and other thermally labile materials into polymers that cannot be formed by traditional processes e.g. melt extrusion and the like; or in incorporation of surfactants into fibres to control polymer properties.

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